Entscheidungshilfe bei der Werkzeugauswahl
Gewindefräsen / Bohrgewindefräsen

Material		Materialuntergruppen	Härte (HB)	Festigkeit (N/mm²)	Gewinde Ø2 - Ø20...										
					MKG Gewindefräsen			MGF Gewindefräsen u. Senken				MGF Gewindefräsen und Senken			
				Bezeichnung	MKG	MKG	MKG XH	MGF	MGF	MGF XS	MGF XH	UMGF	UMGF	PKD-MGF	
				Schneidstoff	VHM	VHM	VHM	VHM	VHM	VHM	VHM	VHM	VHM	PKD	
				Oberfläche	blank	TiCN	TiAlN	blank	TiCN	TiCN	TiAlN	blank	TiCN	blank	
				Kapitel	5		5	1		1	1	2		7	
1. Stahl	P	1.1 Magnetweicheisen	≤120	≤400		●			●				●		
		1.2 Bau-, Einsatzstahl	≤200	≤700		●			●				●		
		1.3 Kohlenstoffstahl	≤250	≤850		●			●				●		
		1.4 legierter Stahl	≤250	≤850		●			●				●		
		1.5 legierter/vergüteter Stahl	>250, ≤350	>850, ≤1200		◐			◐	●			◐		
		1.6 legierter/vergüteter Stahl	>350	>1200		◐			◐	●			◐		
	H	1.7 gehärteter Stahl bis 45 HRC	≤400	≤1400		◐	●		◐		●		◐		
		1.8 gehärteter Stahl bis 58 HRC	≤600	≤2200			●				●				
2. Rostfreier Stahl	M	2.1 Rostfreier Stahl, geschwefelt	≤250	≤850		●			●				●		
		2.2 Austenitisch	≤250	≤850		●			●				●		
		2.3 Ferritisch, Ferritisch u. Austenitisch, Martensitisch	≤300	≤1000		●			●				●		
3. Gusseisen	K	3.1 Grauguss	≤150	≤500	◐	●		◐	●			◐	●		
		3.2 Grauguss vergütet	>150, ≤300	>500, ≤1000	◐	●		◐	●			◐	●		
		3.3 Vermikularguss	200-250	400-500		●			●				●		
		3.4 Sphäroguss	≤200	≤700	◐	●		◐	●			◐	●		
		3.5 Sphäroguss vergütet	>200, ≤300	>700, ≤1000		●			●				●		
		3.6 Temperguss	≤200	≤700		●			●				●		
		3.7 Temperguss vergütet	>200, ≤300	>700, <1000		●			●				●		
4. Titan	S	4.1 Reintitan	≤200	≤700		●			●				●		
		4.2 Titan-Legierungen	≤270	≤900		●			●				●		
		4.3 Titan-Legierungen	>270, ≤300	>900, ≤1250		●			●	●			●		
5. Nickel		5.1 Reinnickel	≤150	≤500		●			●				●		
		5.2 Nickel-Legierungen warmfest	<270	≤900		●			●				●		
		5.3 Nickel-Legierungen hochwarmfest	>270, ≤350	>900, ≤1200		●			●	●			●		
6. Kupfer	N	6.1 unlegiertes Kupfer	≤100	≤350	●	◐		●	◐			●	◐		
		6.2 kurzspan. Messing, Bronze, Rotguss	≤200	≤700	●	◐		●	◐			●	◐	●	
		6.3 langspanendes Messing	≤200	≤700	●	◐		●	◐			●	◐		
		6.4 Cu-Al-Fe-Legierung (Ampco)	≤470	≤500	●	◐		●	◐			●	◐		
7. Aluminium/ Magnesium		7.1 Al, Mg unlegiert	≤100	≤350	●	◐		●	◐			●	◐	●	
		7.2 Al-Knetleg., Bruchdehnung (A 5) <14 %	≤180	≤600	●	◐		●	◐			●	◐	●	
		7.3 Al-Knetleg., Bruchdehnung (A 5) ≥14 %	≤180	≤600	●	◐		●	◐			●	◐	●	
		7.4 Al-Gusslegierung, Si <10 %	<180	≤600	●	◐		●	◐			●	◐	●	
		7.5 Al-Gusslegierung, Si ≥10 %	≤180	≤600	◐	●		◐	●			◐	●	●	
8. Kunststoff		8.1 Thermoplaste			●	◐		●	◐			●	◐		
		8.2 Duroplaste			●	◐		●	◐			●	◐		
		8.3 Faserverstärkte Kunststoffe			◐	●		◐	●			◐	●	●	

● sehr gut ◐ gut

...Gewinde Ø2 - Ø20						Gewinde > Ø20								
BGF Bohren, Senken und Gewindefräsen						GWF SR Gewindefräsen				GWF GP Zirk. Plan-u. -Senken, Gewindefräsen		XAM Gewindefräsen		GWF CUT Gewindefr.
BGF	BGF	BGF NZ4	UBGF	UBGF	DBGF	GWF SR	GWF SR	GWF XS	PKD-GWF SR	GWF GP	GWF GP	XAM	XAM	GWF CUT
VHM	VHM	VHM	VHM	VHM	VHM	VHM	VHM	VHM	PKD	VHM	VHM	HM-WSP	HM-WSP	VHM-Kopf
blank	TiAlN	AlCrN	blank	TiAlN	TiAlN	blank	TiCN	TiCN	blank	blank	TiCN	blank	TiN	TiAlN
3		4	4		4	6		6	7	6		6		6
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◐	●		◐	●	●	◐	●		●	◐	●	◐	●	●

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